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ABSTRACT

This pamphlet offers hints to teachers on how to use the Patterns in Arithmetic series (a set of videotaped lessons) to individualize instruction. The suggestions cover preliminary preparation, procedure while viewing the lesson and immediately afterward, the physical arrangement of the equipment and tapes, and the prescription of different types of follow-up work according to students' ability. (MM)

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EFFECTIVE USE OF PATTERNS IN ARITHMETIC FOR INDIVIDUALIZED INSTRUCTION

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Field Paper 36

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The content of this paper is based on visits to Northwest Regional Educational Laboratory test sites at Cascade and Idaho City, Idaho.

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The videotaped materials comprising the Patterns in Arithmetic series can be used effectively for individualizing instruction. These materials were produced at the University of Wisconsin and the Wisconsin Research and Development Center, and are being adapted and field tested by the Northwest Regional Educational Laboratory.

The television-based series cannot become totally self-instructional, but that is not inferred by the term "individualized instruction." To individualize instruction, the teacher becomes a prescriber of learning activities instead of a disseminator of information. To prescribe learning activities for children, the teacher must have a wealth of materials available at varying ability levels. This permits selection of appropriate materials based on each child's ability level. The materials must be available immediately when needed for the individual child, for groups of students or for class use. Patterns in Arithmetic provides this potential. While each television lesson is not available for each specific ability level, the lessons are broad enough to meet many individual levels.

When using this series, the classroom teacher can individualize instruction in several ways. After presenting a television lesson to the entire class, the teacher can prescribe to a group of "slower" children or to a "slower" individual child a second or third viewing of the lesson. The teacher can assist individuals or groups of children personally. It is important to note that the teacher selects the methods which would be most effective: A short personal explanation with a different approach or a second or third viewing of the videotape. By prescribing

in this way, Patterns in Arithmetic can become a tool to individualized instruction.

The series can help the teacher meet the needs of individual students with different ability levels. It also can provide the teacher with time to work with students who need a different approach or who need additional personal attention. The PIA television materials relieve the teacher from time consuming preparation and free him to meet these needs.

To assist teachers use Patterns in Arithmetic effectively to individualize instruction, several suggestions are offered.

1. Teachers need to use proper television utilization techniques. The following procedures are presented as a guide.

In preparing the lesson:

A. Review the lesson content and related viewing activities as outlined in the television guide.

B. Arrange the room and adjust the television set to guarantee optimum listening and viewing. Check for glare on the television screen.

C. Provide necessary materials and space for participating activities during the lesson, as called for in the guide.

D. Present to the students the main idea which will be developed in the television lesson and review the preceding lessons.

E. Introduce the television lesson.

During the presentation of the television lesson:

A. View the television lessons sequentially and systematically with the children.

B. Establish and maintain rapport with the television teacher through active response and participation.

C. Set a good example for effective listening and viewing by students.

D. Observe and record students' reactions during the lesson to facilitate follow-up activities.

E. Provide additional viewing to students who need it.

Following presentation of the televised lesson:

A. Provide opportunity for clarification, discussion, understanding, sharing and relating the television lesson to classroom experiences.

B. Provide additional viewing as students need it.

C. Evaluate the lesson in terms of its value to students.

2. Use of the television equipment can be simplified by arranging it on the equipment cart. Place the television monitor on the top shelf and videotape recorder on the middle shelf. Connect the necessary cables between the recorder and the television monitor. Tie the cables together neatly. Operate the unit from this <u>one</u> cart. If it is then impossible to place the cover on the tape recorder due to lack of space, cover the recorder with a heavy towel and keep

the towel clean. This procedure provides for convenient use and eliminates operator problems (see illustration No. 3).

3. Each tape should be relabeled clearly by number and concept. This can be done easily by pasting a white sheet of paper on the back edge of the videotape box. Place the tape number on the left, the concept in the middle and the counter index number where the program begins on the right (see illustration No. 1).

4. Programs should be stored vertically in a clean area conveniently located for both students and teachers. Ideally, the tapes should be stored in the classrooms where the teachers and students are assigned. However, if more than one teacher is using the same tapes in separate rooms, then the tapes should be stored in a convenient location for both teachers and students involved.

5. Math problems given in the teacher and student guides can be used as a basis for developing new problems. Develop these problems for ability levels: basic proficiencies for the slow learner, medium proficiencies for the average learner and advanced proficiencies for the rapid learner. The teacher's guide is offered as a starting point. Elaborate on these problems and rearrange problems into packages by ability levels. Through this technique, groups of students can work different problem sets based upon their ability levels.

6. Transparency masters can be developed and real objects constructed on the basis of models provided in the teacher's manual. These materials can be used to assist the teacher in elaborating upon each television lesson.

7. Students in the upper grades who have mechanical ability can operate the equipment. They can assist teachers and students in lower grades.

8. When the videotape recorder system is being shared by several teachers in a building, a location should be specified for the unit when it is not being used. This location should permit individual and small group use without interrupting other classroom activities. It could be placed in a learning resource center, a library or even in a hallway.

9. Additional viewing should be prescribed for the slow learners.

10. Teacher should prescribe learning activities. When children encounter problems understanding a concept, the teacher should decide whether to elaborate and clarify the concept directly with the child, or to use the videotape material. Teachers should work with children who need personal help and use the videotape repeatedly as the situation dictates.

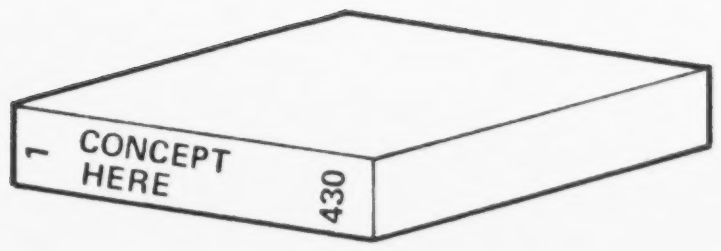

ILLUSTRATION NO. 1

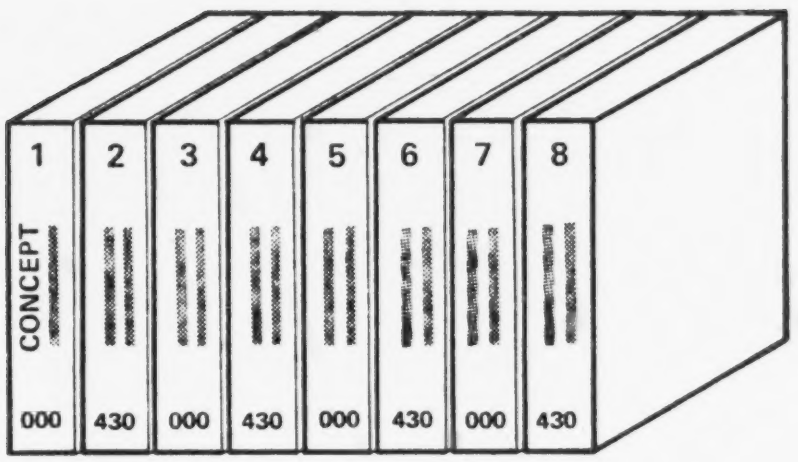

ILLUSTRATION NO. 2

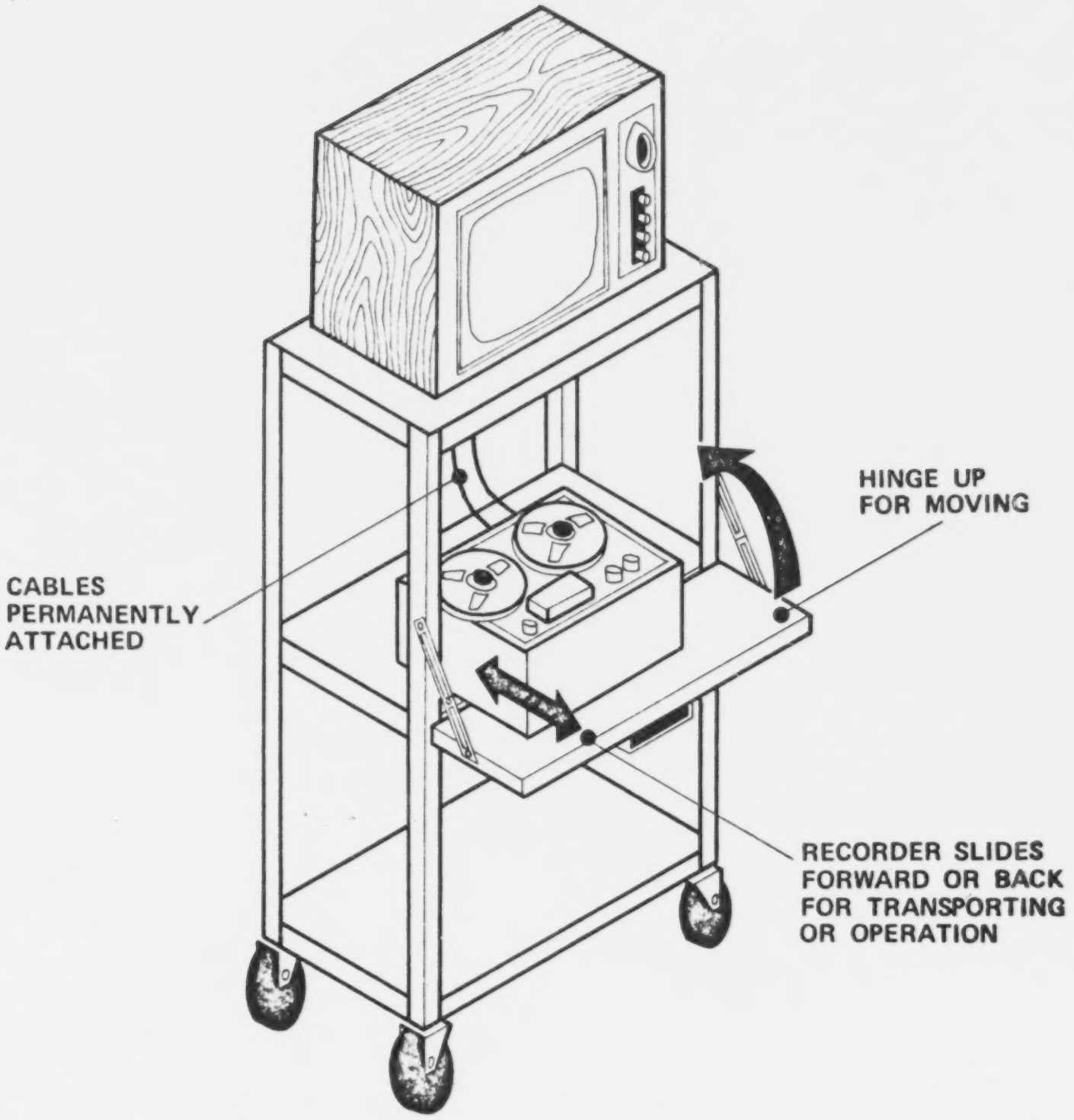

ILLUSTRATION NO. 3